



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

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Fax 613 632-5246

**D5712-5**  
**Job Sheet 200315**

Accounting Job RD18-762-01



*Reprint*

*Approved*

Part No: D5712-5

Job Qty: 1 pcs

Part Name: MID HOIST GUARD



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/10/19

Job Tracking No:

Due Date: 9/25/19

Created By: Marie Lajeunesse

Type: R+D

Description:

Note: DWG D5712 REV.A IPP REV:A 19.08.26 NEW ISSUE DD VERF:JFS

Ship Via:

**POSITIVE RECALL**  
EFFECTIVE 1-9-2019  
RELEASED 02-2-2019  
DATE 21-9-89

### Bill of Materials

### Job Routing

| Op No | Operation           | Qty   | Start Date | Due Date | Standard Setup Hrs | Run Hrs | Workcenter/Supplier | Lead Time | Sign-off |
|-------|---------------------|-------|------------|----------|--------------------|---------|---------------------|-----------|----------|
| 100   | Waterjet - Flow - 1 | 1 pcs | 9/25/19    | 9/25/19  | 0.17               | 0.25    | Waterjet - Flow     | 9/24/19   | JRB      |
| 110   | HAAS 4 Axis - B4B   | 1 pcs | 9/25/19    | 9/25/19  | 0.50               | 0.75    | HAAS - 1 - B4B      |           |          |
|       |                     |       |            |          |                    |         | HAAS - 2 - B4B      |           |          |
|       |                     |       |            |          |                    |         | HAAS - 3 - B4B      |           |          |
|       |                     |       |            |          |                    |         | HAAS - 4 - B4B      |           |          |
| 120   | QC 2                | 1 pcs | 9/25/19    | 9/25/19  | 0.00               | 0.00    | QC 2 - 1            |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 12           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 14           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 17           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 19           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 2            |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 20           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 22           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 23           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 25           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 32           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 33           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 35           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 39           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 4            |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 40           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 44           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 45           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 48           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 49           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 50           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 51           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 52           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 57           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 62           |           |          |
|       |                     |       |            |          |                    |         | QC 2 - 63           |           |          |

DAS  
64  
9-89

**PRIORITY**

Date: 09/24/19

Instructions: Various STC's

**DART AEROSPACE**

Container No: S216635

Part: D5712-5  
Job No: 200315  
Serial No/Batch: S216635

Revision: A  
Inspector:  
Exp Date:  
Instructions: Various STC's

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|     |                             |       |         |           |                        |
|-----|-----------------------------|-------|---------|-----------|------------------------|
|     |                             |       |         | QC 2 - 8  |                        |
|     |                             |       |         | QC 2 - 66 |                        |
|     |                             |       |         | QC 2 - 64 |                        |
|     |                             |       |         | QC 2 - 65 |                        |
|     |                             |       |         | QC 2 - 5  |                        |
|     |                             |       |         | QC 2 - 71 |                        |
|     |                             |       |         | QC 2 - 73 |                        |
|     |                             |       |         | QC 2 - 69 |                        |
| 130 | QC 8                        | 1 pcs | 9/25/19 | 0.00 0.00 | QC 8 - 12              |
|     |                             |       |         |           | QC 8 - 14              |
|     |                             |       |         |           | QC 8 - 17              |
|     |                             |       |         |           | QC 8 - 20              |
|     |                             |       |         |           | QC 8 - 25              |
|     |                             |       |         |           | QC 8 - 3               |
|     |                             |       |         |           | QC 8 - 32              |
|     |                             |       |         |           | QC 8 - 33              |
|     |                             |       |         |           | QC 8 - 35              |
|     |                             |       |         |           | QC 8 - 39              |
|     |                             |       |         |           | QC 8 - 4               |
|     |                             |       |         |           | QC 8 - 44              |
|     |                             |       |         |           | QC 8 - 45              |
|     |                             |       |         |           | QC 8 - 49              |
|     |                             |       |         |           | QC 8 - 58              |
|     |                             |       |         |           | QC 8 - 8               |
|     |                             |       |         |           | QC 8 - 9               |
|     |                             |       |         |           | QC 8 - 68              |
|     |                             |       |         |           | QC 8 - 67              |
|     |                             |       |         |           | QC 8 - 1 (A)           |
|     |                             |       |         |           | QC 8 - 47              |
|     |                             |       |         |           | QC 8 - 40              |
|     |                             |       |         |           | QC 8 - 52              |
|     |                             |       |         |           | QC 8 - 23              |
|     |                             |       |         |           | QC 8 - 57              |
|     |                             |       |         |           | QC 8 - 76              |
| 140 | Packaging 3-1 - Stock - B4B | 1 pcs | 9/25/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  |
|     |                             |       |         |           | Packaging 3 - 2 - B4B  |
|     |                             |       |         |           | Packaging 3 - 3 - B4B  |
|     |                             |       |         |           | Packaging 3 - 4 - B4B  |
|     |                             |       |         |           | Packaging 3 - 5 - B4B  |
|     |                             |       |         |           | Packaging 3 - 6 - B4B  |
|     |                             |       |         |           | Packaging 3 - 7 - B4B  |
|     |                             |       |         |           | Packaging 3 - 8 - B4B  |
|     |                             |       |         |           | Packaging 3 - 9 - B4B  |
|     |                             |       |         |           | Packaging 3 - 10 - B4B |
|     |                             |       |         |           | Packaging 3 - 11 - B4B |
|     |                             |       |         |           | Packaging 3 - 12 - B4B |
|     |                             |       |         |           | Packaging 3 - 13 - B4B |
|     |                             |       |         |           | Packaging 3 - 14 - B4B |
|     |                             |       |         |           | Packaging 3 - 15 - B4B |
|     |                             |       |         |           | Packaging 3 - 16 - B4B |
|     |                             |       |         |           | Packaging 3 - 17 - B4B |
|     |                             |       |         |           | Packaging 3 - 18 - B4B |
|     |                             |       |         |           | Packaging 3 - 19 - B4B |
|     |                             |       |         |           | Packaging 3 - 20 - B4B |
|     |                             |       |         |           | Packaging 3 - 21 - B4B |
|     |                             |       |         |           | Packaging 3 - 22 - B4B |
|     |                             |       |         |           | Packaging 3 - 23 - B4B |
|     |                             |       |         |           | Packaging 3 - 24 - B4B |
|     |                             |       |         |           | Packaging 3 - 25 - B4B |

2019/09/30

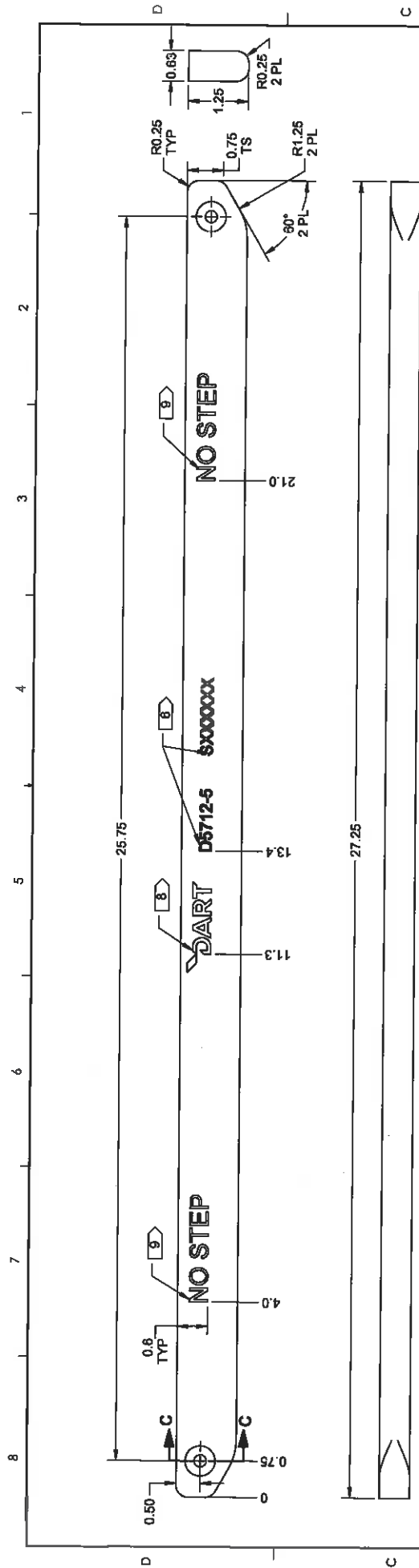
2019/09/30

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9-89

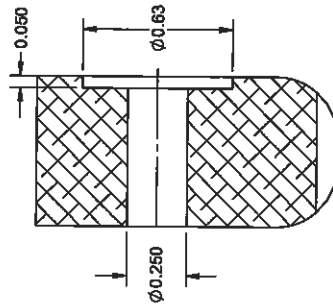
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         |                        |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------|-------------------------|------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 26 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 27 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 28 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 29 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 30 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 31 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 32 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 33 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 34 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 35 - B4B |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | Packaging 3 - 36 - B4B |  |
| 150 QC 21 - SA                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1 pcs                                        | 9/25/19              | 0.00 0.00               | QC 21 - SA - 21        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | QC 21 - SA - 70        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                              |                      |                         | QC 21 - SA - 53        |  |
| Part Op <b>100</b> - CUT D5712-5 BLANK<br>Descriptions: <b>110</b> - (HAAS CNC vertical machine #4) 1-Mill as per folio FC957 & dwg D5712, FOLIO REV: <u>AA</u> DWG<br>REV: <u>A</u> 2-Deburr as required<br><b>120</b> - (QC2- Inspect parts off machine FAI/FAIB)<br><b>130</b> - (QC8- Inspect parts - second check)<br><b>140</b> - (Identify as per dwg & Stock Location: _____)<br><b>150</b> - QC21- Final Inspection - Work Order Release |                                              |                      |                         |                        |  |
| <b>Job BOM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                              |                      |                         |                        |  |
| <b>Part / Item</b>                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Component Name</b>                        | <b>Quantity</b>      | <b>Operation</b>        | <b>Container</b>       |  |
| MUHMWB10                                                                                                                                                                                                                                                                                                                                                                                                                                          | UHMW 1" Black - 48"x120" Tivar Mfg.#52480104 | 1.2770 sf (1.277 ea) | 100-Waterjet - Flow - 1 | 5154152                |  |
| <b>Job Allocations</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                      |                         |                        |  |
| <b>Operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Component Part</b>                        | <b>Required</b>      | <b>Inventory</b>        | <b>Allocated</b>       |  |
| 100-Waterjet - Flow - 1                                                                                                                                                                                                                                                                                                                                                                                                                           | MUHMWB10                                     | 1                    | 333                     | 0                      |  |
| <b>Part Specifications</b>                                                                                                                                                                                                                                                                                                                                                                                                                        |                                              |                      |                         |                        |  |
| Specifications could not be found.                                                                                                                                                                                                                                                                                                                                                                                                                |                                              |                      |                         |                        |  |

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# **D5712-5 MID HOIST GUARD**



- NOTES:**
- 1) MATERIAL: BLACK UHMW TYVAR 1000 VIRGIN MATERIAL SHEET  
REF DART SPEC MUHMB
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N AND SIN PER DART QSI 044 6.3  
WITH 0.25 LETTER HEIGHT, 0.010 MAX DEPTH AND 0.010 MIN TOOL RAD
  - 7) WEIGHT: 0.69 lbs
  - 8) ENGRAVE DART LOGO WITH 0.38 LETTER HEIGHT, 0.010 MAX DEPTH, AND 0.010 MIN TOOL RAD
  - 9) ENGRAVE "NO STEP" WITH 0.38 LETTER HEIGHT, 0.010 MAX DEPTH, AND 0.010 MIN TOOL RAD

## **PRELIMINARY ISSUE**

|            |          |                          |
|------------|----------|--------------------------|
| DESIGN     | ZF       | DART AEROSPACE USA, INC. |
| DRAWN      | MW       | HILLSBORO, OR            |
| CHECKED    | ZF       | DRAWING NO. D5712        |
| MFG. APPR. | RQ       | REV. A3 SHEET 3 OF 3     |
| APPROVED   |          | TITLE                    |
| DE APPR.   |          | HOIST GUARD (H145)       |
| DATE       | 18.12.13 | SCALE                    |
|            |          | INTS                     |

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STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION  
IN WRITING FROM DART AEROSPACE USA, INC.

200315-HWS  
19-05-19

Entered: \_\_\_\_\_

Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / ROUTE UPDATE**

NCR No. \_\_\_\_\_

Route update only ☐

|                                         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |
|-----------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------|--|--------------|--|
| Job: _____<br><br>Part No. _____        |  | <b>DISPOSITION</b><br><div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Rework<br/> <input type="checkbox"/> Scrap<br/> <input type="checkbox"/> Use-as-is         </div> <div> <input type="checkbox"/> Skid-tube<br/> <input type="checkbox"/> Machining<br/> <input type="checkbox"/> Large Fab         </div> <div> <input type="checkbox"/> Cross tube<br/> <input type="checkbox"/> Small Fab<br/> <input type="checkbox"/> Finishing         </div> <div> <input type="checkbox"/> Eng. (Non-AW)<br/> <input type="checkbox"/> Prod. Eng. Coord.<br/> <input type="checkbox"/> Rec/Store/Packaging         </div> <div> <input type="checkbox"/> Engineering<br/> <input type="checkbox"/> Water Jet<br/> <input type="checkbox"/> Supplier<br/> <input type="checkbox"/> Quality         </div> </div> |  | <b>DEPARTMENT/PROCESS</b> |  | MRB (QS1042) |  |
| Date : _____                            |  | Sequence #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | QTY Affected : _____      |  |              |  |
| <b>Description Work Order Deviation</b> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |
|                                         |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |
| Completed By _____                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |
| Lead hand / Supervisor _____            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |
| QC / QA Coordinator _____               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                           |  |              |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Root Cause</b><br><div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Operator<br/> <input type="checkbox"/> Manufacturing Process<br/> <input type="checkbox"/> Equip/Tooling<br/> <input type="checkbox"/> Handling/Preservation<br/> <input type="checkbox"/> Material<br/> <input type="checkbox"/> Product Improvement<br/> <input type="checkbox"/> Process Improvement<br/> <input type="checkbox"/> Human Factors         </div> <div> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled<br/>           Other/Details: _____         </div> </div> |  | <b>FAULT CATEGORY</b><br><div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> </div> |  |
| <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

